



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,817	12/02/2003	Patrick Reinhold	22718	4112
535 7590 12/06/2007 K.F. ROSS P.C. 5683 RIVERDALE AVENUE SUITE 203 BOX 900 BRONX, NY 10471-0900			EXAMINER ROE, JESSEE RANDALL	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 12/06/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

MAILED  
DEC 06 2007  
GROUP 1700

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/726,817  
Filing Date: December 02, 2003  
Appellant(s): REINHOLD ET AL.

\_\_\_\_\_  
Andrew Wilford  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 1 October 2007 appealing from the Office action mailed 9 April 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

1949716

Harsch

03-1934

ASM International, Materials Park, Ohio, Classification and Designation of Carbon and Low-Alloy Steels, Volume 1, 30 March 1990, page 140.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harsch (US 1,949,716) in view of the ASM Handbook Volume 1.

In regards to claim 9, Harsch ('716) discloses an apparatus for drawing, hardening and tempering (heat treating) metal objects wherein the apparatus would comprise: a longitudinally extending furnace (page 1, lines 1-3 and Figure 1); a longitudinally extending partition dividing the furnace work chamber from the air heating chambers which would be adjacent one another (page 2, lines 49-71 and Figures 1-2); electric resistor elements for transfer of heat to the metal objects (page 1, lines 83-89); baffles for heating zones at different temperatures (which may also serve as a partition to divide the work chamber) and control system for individually controlling each zone (page 1, lines 14-19 and page 3, lines 93-109); fans that are individually controlled (page 1, lines 97-104); and a transport means (conveyor) for conveying the workpiece

longitudinally through the furnace generally parallel to the partition (page 1, lines 1-3 and Figure 1). It would have been obvious to one of ordinary skill in the art to modify the apparatus for drawing, hardening and tempering (heat treating) metal objects, as disclosed by Harsch ('716) by applying the desired amount of baffles to create heating zones in order to achieve a desired uniform or non-uniform finished product.

With respect to the recitation "with a region of the workpiece moving exclusively through the one zone and another region of the workpiece moving exclusively through the other of the zones such that the regions are heated to different temperatures", the Examiner asserts that the claims are directed toward an apparatus and not a method. Furthermore, because the apparatus disclosed by Harsch ('716) would have all of the components required by the instant claim, the apparatus disclosed by Harsch ('716) would be capable of performing the same process. MPEP 2112.01 I.

Harsch ('716) discloses an apparatus for drawing, hardening, and tempering (heat treating) metal objects as shown above, but Harsch ('716) does not specify that the metal objects would include steel.

The ASM Handbook Volume 1 discloses that steel would be one of the most widely used category metallic material because it can be manufactured relatively inexpensively in large quantities to very precise specifications (page 140).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the apparatus for drawing, hardening, and tempering (heat treating) metal objects, as disclosed by Harsch ('716), to treat the most widely used category metallic material (steel), as disclosed by the ASM Handbook

Volume 1, because steel can be manufactured relatively inexpensively in large quantities to very precise specifications, as disclosed by the ASM Handbook Volume 1 (page 140).

In regards to claims 10 and 12-13, Harsch ('716) discloses a plate or trough that supports the upper lift of the conveyor chain (serving as an upper or middle partition) and the presence of baffles and/or trays that extend the length of the heating chamber within the furnace and a plate that supports the lower lift (lower partition) thereby defining an open gap (page 1, lines 78-82, page 2, lines 121-137 and Figure 9). In addition, the adjustable baffles would be included in each zone (above the conveyor dividing the heat treatment zone of the object (page 1, lines 14-19) and the plate would be movable.

In regards to claim 11, Harsch ('716) discloses that the baffles would be movable and that the trays would be movable (page 1, lines 1-26 and page 2, lines 121-137).

#### **(10) Response to Argument**

First, the Appellant primarily argues that there are no longitudinally extending zones through which respective regions of the workpieces move "exclusively" through one zone while another region moves "exclusively" through the other zone. In response, the Examiner notes that Harsch ('716) discloses a plate or trough that supports the upper lift of the conveyor chain (serving as an upper or middle partition) and the presence of baffles and/or trays that extend the length of the heating chamber within the

furnace) and a plate that supports the lower lift (lower partition) thereby defining an open gap (page 1, lines 78-82, page 2, lines 121-137 and Figure 9). In addition, Harsch ('716) also discloses a control system for individually controlling each zone (page 3, lines 93-109).

Second, the Appellant primarily argues that Harsch ('716) would not be interested in differential tempering and is only interested in "uniform" treatment. The Examiner respectfully disagrees that Harsch ('716) is only interested in "uniform" treatment. The temperature may be controlled to obtain different values for different zones (page 3, lines 141-145); the work heating chamber may be divided into zones of different temperature (page 1, lines 14-19); and the heat energy of the different zones may be individually controlled (page 3, lines 93-94). Therefore, it would be expected that the apparatus disclosed by Harsch ('716) would be capable of producing metal objects that would not be uniformly treated.

Third, the Appellant primarily argues that in order to meet the instant claims it would be necessary to:

1. Form a longitudinally extending gap in one of the partitions 35 (Fig. 9).
2. Laterally extend the conveyor so that it also runs in the side chamber.
3. Provide a different loading apparatus so workpieces could be oriented with one part to one side of the rebuilt partition and one side to the other.
4. Eliminate the cross-wise partitions 25 and 25a.

In response, the Examiner agrees that this would be one set of actions that one could modify Harsch ('716) in order to meet the instant claims, although providing a different loading apparatus would appear to be optional depending upon the type and shape of the steel workpiece. However, the longitudinally extending gap limitation and the division of the heating chamber could be met by the presence of baffles and/or trays that extend the length of the heating chamber within the furnace with the plate that supports the lower lift (page 1, lines 78-82, page 2, lines 121-137 and Figure 9), thereby eliminating the need to eliminate the cross-wise partitions 25 and 25a.

Fourth, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

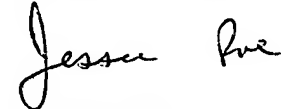


Application/Control Number:  
10/726,817  
Art Unit: 1793

Page 8

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Jessee Roe


Patent Examiner, Art Unit 1793

Conferees:

Dr. Roy V. King

  
**ROY KING**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**

Appeal Specialist

  
Romulo Delmendo  
*Appeal Conferee*